rehydrating and unloading the specimen after storage at the refrigerating temperature and subsequent warming to 0°C or above.

7. (Three times Amended) The method of claim 1, wherein the total concentration of the non-permeating co-solute in any preserved specimen is between 0.3 and 0.7 mol/l.

9. (Three times Amended) The method of claim 1, wherein-dehydrating and loading the specimen is performed in two or more stages of contacting the specimen with increasingly higher concentrations of the permeating cryoprotectant and the co-solute.

10. (Three times Amended) The method of claim 1, wherein dehydrating and loading the specimen is performed by simultaneously increasing concentrations of both permeating cryoprotectant and the co-solute from an initial concentration to a final concentration according to a desired profile.

12. (Three times Amended) The method of claim 1, further comprising rehydrating and unloading the specimen by equilibration in [with] a rehydration solution comprising a non-permeating co-solute which effectively decreases the chemical potential of the permeating cryoprotectant.

25. (Twice Amended) The method of claim 1, wherein the non-permeating co-solute is selected from the group consisting of an aldose monosaccharide, a ketose monosaccharide, an amino sugar, an alditol, an inositol, aidonic acid, uronic acid, aldaric acid, amino acid, and a disaccharide.

26. (Twice Amended) The method of claim 12, wherein the non-permeating rehydration co-solute is selected from the group consisting of an aldose monosaccharide, a ketose monosaccharide, an amino sugar, an alditol, an inositol, aidonic acid, uronic acid, aldaric acid, amino acid, and a disaccharide.

REMARKS